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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,430	08/08/2001	Katsumi Kurematsu	1232-4753	5154

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EXAMINER

ROBINSON, MARK A

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 06/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,430

Applicant(s)

KUREMATSU ET AL.

Examiner

Mark A. Robinson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 6,7 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8 and 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1,13-15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant's admission of the prior art found on specification p. 1,2 and fig 6 of the instant disclosure.

Applicant's admission discloses a display apparatus with a projection system including display means (p.1 line 15) and projection system having a plurality of aspheric curved mirrors (p. 1 line 17) and a distortion of 1.2% or less (p. 2 line 4). Note that a computer or other arithmetic device is inherent in the disclosed system.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 2-5,8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission in view of Braat of record.

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Applicant's admission does not disclose six aspheric mirrors with associated aperture stop as set forth in these claims. However, Braat teaches these features as discussed in the previous office action. It would have been obvious to the ordinarily skilled artisan at the time of invention to use the projecting mirrors of Braat with applicant's admitted display system because providing additional aspheric projecting mirrors would yield the benefit of better image correction. Note also that an increase in the number of mirrors would provide additional degrees of freedom in designing for correction of aberrations.

Regarding claim 11, although not shown by the references, use of an additional common fold mirror would have been obvious at the time of invention in order to produce a more compact system.

Regarding claim 12, applicant's admission in view of Braat does not teach the projection surface to include Fresnel plates. However, projections screens having such an arrangement are well known in the prior art. It would have been obvious at the time of invention to use Fresnel plates with the projection surface of applicant's admission in view of Braat in order to provide directional control of the emerging light.

5. Claims 16-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Negishi et al of record in view of Braat.

The limitations of claims 16-18 are either met by or obvious over Negishi in view of Braat as discussed in the previous office action.

Response to Arguments

6. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's arguments regarding claim 16 have been fully considered but they are not persuasive.

Applicant has argued that Braat teaches away from a system which has both aspheric mirrors and planar mirrors and thus the combination of references would not have been obvious.

In response, it should be noted that the rejection was based upon the incorporation of Braat's projecting mirrors (i.e. the aspheric curved mirrors) in Negishi's projection system, not replacing Negishi's fold mirrors. Such a modification would have been obvious for the reasons given in the previous office action, namely that providing additional aspheric projecting mirrors would yield the benefit of better image correction, and that an increase in the number of mirrors would provide

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additional degrees of freedom in designing for correction of aberrations. Since applicant has not rebutted these assertions set forth by the examiner, the rejection is still deemed to be valid.

In response to applicant's traversal of the examiner's taking of Official Notice of well known facts, the examiner has cited two patents which show the features in question. Note Minoura et al figs. 9 and 11 and Kurematsu et al fig. 6.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Minoura et al and Kurematsu et al show plural eccentric Fresnel plates used in projection screens. Shibazaki shows a projection system with curved mirrors.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Robinson whose telephone number is (703) 305-3506.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached at (703) 308-1687. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MR

6/18/03


MARK A. ROBINSON
PRIMARY EXAMINER